What is claimed is:

1. An optical fiber comprising:

a core for guiding light of a specified range of wavelengths therethrough, each wavelength in said specified range of wavelengths traveling through the core at a particular group velocity and said light potentially producing a nonlinear optical effect;

a cladding formed around the core for substantially containing the light within the core; and

a predetermined amount of at least one dopant uniformly dispersed throughout the core such that no two distinct wavelengths in the specified range of wavelengths travel through the core at the same, particular group velocity, thereby causing said nonlinear optical effect to be suppressed.

2. The optical fiber of Claim 1 wherein said nonlinear optical effect to be reduced is four-wave mixing.

3. The optical fiber of Claim 1 wherein said core is formed of SiO_2.

4. The optical fiber of Claim 3 wherein said dopant is P_2O_5.

5. The optical fiber of Claim 3 wherein said dopant is GeO_2.

6. The optical fiber of Claim 1 wherein said cladding includes an amount of at least one cladding dopant uniformly dispersed throughout the cladding so as to further reduce said nonlinear optical effect.

7. The optical fiber of Claim 6 wherein said cladding dopant is B_2O_3.

8. A method for reducing nonlinear optical effects in an optical fiber, said optical fiber including a core for guiding light of a specified range of wavelengths therethrough, each wavelength in said specified range of wavelengths traveling through the core at a particular group velocity and said light potentially producing a nonlinear optical effect, said optical fiber further including a cladding formed around the core for substantially containing the light within the core, said method comprising the step of:

dispersing a predetermined amount of at least one dopant uniformly throughout the core such that no two distinct wavelengths in the specified range of wavelengths travel through the core at the same, particular group velocity, thereby said nonlinear optical effect to be suppressed.

9. The method of Claim 8 further comprising the step of:

dispersing an amount of at least one cladding dopant uniformly throughout the cladding so as to further suppress said nonlinear optical effect.

10. In an optical fiber including a core for guiding light of a specified range of wavelengths therethrough, each wavelength in the specified range of wavelengths traveling through the core at a particular group velocity and said light potentially producing a nonlinear optical effect, said optical fiber further including a cladding formed around the core for substantially containing the light within the core, the improvement comprising:

a predetermined amount of at least one dopant uniformly dispersed throughout the core such that no two distinct

wavelengths in the specified range of wavelengths travel through the core at the same, particular group velocity, thereby causing said nonlinear optical effect to be suppressed.

11. The optical fiber of Claim 10 wherein said nonlinear optical effect to be reduced is four-wave mixing.

12. The optical fiber of Claim 10 wherein said core is formed of SiO_2.

13. The optical fiber of Claim 12 wherein said dopant is P_2O_5.

14. The optical fiber of Claim 12 wherein said dopant is GeO_2.

15. The optical fiber of Claim 10 wherein said cladding includes an amount of at least one cladding dopant uniformly dispersed throughout the cladding so as to further reduce said nonlinear optical effect.

16. The optical fiber of Claim 15 wherein said cladding dopant is B_2O_3.

17. An optical fiber comprising:

a core for guiding light of a specified range of wavelengths therethrough, said core having a range of group index values uniformly distributed throughout the core;

a cladding formed around the core for substantially containing said light within the core; and

a predetermined amount of at least one dopant uniformly dispersed throughout the core such that, said light potentially producing a nonlinear optical effect and each wavelength in the specified range of wavelengths being associated with a particular group index value in the range of group index values, no two distinct wavelengths in the specified range of wavelengths are associated with the same, particular group index value in the range of group index values, thereby causing said nonlinear optical effect to be suppressed.

18. The optical fiber of Claim 17 wherein said nonlinear optical effect to be reduced is four-wave mixing.

19. The optical fiber of Claim 17 wherein said core is formed of SiO_2.

20. The optical fiber of Claim 19 wherein said dopant is P_2O_5.

21. The optical fiber of Claim 19 wherein said dopant is GeO_2.

22. The optical fiber of Claim 17 wherein said cladding includes an amount of at least one cladding dopant uniformly dispersed throughout the cladding so as to further reduce said nonlinear optical effect.

23. The optical fiber of Claim 22 wherein said cladding dopant is B_2O_3.

24. A method for reducing nonlinear optical effects in an optical fiber, said optical fiber including a core for guiding light of a specified range of wavelengths therethrough, said core having a range of group index values uniformly distributed throughout the core, each wavelength in the specified range of wavelengths being associated with a particular group index value in the range of group index values, said optical fiber further including a cladding formed around the

core for substantially containing said light within the core, and said light potentially producing said nonlinear optical effect, said method comprising the step of:

distributing a predetermined amount of at least one dopant uniformly throughout the core such that no two distinct wavelengths in the specified range of wavelengths are associated with the same particular group index value in the range of group index values thereby causing said nonlinear optical effect to be suppressed.

25. The method of Claim 24 further comprising the step of:

dispersing an amount of at least one cladding dopant uniformly throughout the cladding so as to further reduce said nonlinear optical effect.

26. In an optical fiber including a core for guiding light of a specified range of wavelengths therethrough, said core having a range of group index values uniformly distributed throughout the core, each wavelength in the specified range of wavelengths being associated with a particular refractive index value in the range of refractive index values and said light potentially producing a nonlinear optical effect, said optical fiber further including a cladding formed around the core for substantially containing said light within the core, the improvement comprising:

a predetermined amount of at least one dopant uniformly dispersed throughout the core such that no two distinct wavelengths in the specified range of wavelengths are associated with the same particular group index value in the range of group index values, thereby causing said nonlinear optical effect to be suppressed.

27. The optical fiber of Claim 26 wherein said nonlinear optical effect to be reduced is four-wave mixing.

28. The optical fiber of Claim 26 wherein said core is formed of SiO_2.

29. The optical fiber of Claim 28 wherein said dopant is P_2O_5.

30. The optical fiber of Claim 28 wherein said dopant is GeO_2.

31. The optical fiber of Claim 26 wherein said cladding includes an amount of at least one cladding dopant uniformly dispersed throughout the cladding so as to further reduce said nonlinear optical effect.

32. The optical fiber of Claim 31 wherein said cladding dopant is B_2O_3.